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ARMY BUDGET

Potential Reductions to Aircraft Procurement Budgets

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National Security and
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September 27, 1988

The Honorable John C. Stennis
Chairman, Committee on Appropriations
United States Senate

The Honorable Bill Chappell, Jr.
Chairman, Subcommittee on Defense
Committee on Appropriations
House of Representatives

As you requested, we reviewed the justification for selected line items in the Army's $2.8 billion fiscal year 1989 budget for procuring aircraft. We examined the budgetary justification for five helicopter systems totaling approximately $1.9 billion. We also reviewed the execution of the budgets for fiscal years 1987 and 1988 for these systems to identify potential reductions. The systems we reviewed were the AH-64A Apache, the UH-60A Black Hawk, the CH-47D Chinook, the OH-58D Army Helicopter Improvement Program (AHIP), and the MH-60K and MH-47E Special Operations Aircraft modifications.

We identified $91.0 million in potential reductions: $3.5 million for fiscal year 1987, $24.5 million for fiscal year 1988, and $63.0 million for fiscal year 1989. These reductions are possible because budgeted amounts exceeded actual contract values; lower contract estimates were received after budget submission; acquisition schedules slipped; funds are being considered for purposes for which they were not originally intended; funds were not designated for a specific purpose; and in some instances local estimating procedures were not followed in budget development, resulting in overestimations. See appendix I for a discussion of these potential budget reductions.

As agreed with your offices, we did not obtain official agency comments on this report. However, we discussed its contents with Office of the Secretary of Defense and Army program officials and incorporated their comments where appropriate. Generally, Army program officials agreed that certain funds might not be needed for their originally budgeted purposes. However, they believed that the reductions should not be made because the funds would be needed for possible cost increases and for unfunded requirements. Our objective, scope, and methodology are discussed in appendix II.

We are sending copies of this report to various congressional committees; the Secretaries of Defense and the Army; and the Director, Office of Management and Budget.

Frank C. Conahan
Assistant Comptroller General

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Abbreviations

AHIP	Army Helicopter Improvement Program
ECP	engineering change proposal
SOA	Special Operations Aircraft

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Potential Reductions to the Army's Aircraft Procurement Budgets

The Army requested about $2.8 billion in fiscal year 1989 for aircraft, aircraft modifications, spares and repair parts, and support equipment and facilities. We reviewed the Army's justification data for five helicopter systems, which account for about $1.9 billion of the request. Since procurement funds remain available for obligation for 3 fiscal years, we also reviewed the status of funds provided for fiscal years 1987 and 1988 for these systems to identify potential budget reductions.

As shown in table I.1, we identified potential reductions of about $91.0 million: $3.5 million for fiscal year 1987, $24.5 million for fiscal year 1988, and $63.0 million for fiscal year 1989.

Table I.1: Summary of Potential Reductions to Aircraft Budgets

Dollars in millions

	Fiscal years			
Army aircraft program	**1987**	**1988**	**1989**	**Total**
AH-64A Apache	$3.3	$4.5	$29.3	**$37.1**
UH-60A Black Hawk	0	1.2	11.0	**12.2**
CH-47D Chinook	0.2	0.3	3.7	**4.2**
OH-58D AHIP	0	13.9	11.5	**25.4**
Special Operations Aircraft	0	4.6	7.5	**12.1**
Total	**$3.5**	**$24.5**	**$63.0**	**$91.0**

AH-64A Apache

The AH-64A Apache is the newest Army attack helicopter. It is designed to provide improved capabilities, such as increased standoff, adverse weather and night attack capabilities, and improved survivability. This two-person, twin-engine helicopter is capable of carrying up to 16 Hellfire missiles or 76 2.75-inch rockets and varying amounts of 30-millimeter ammunition. The Army began procuring Apache helicopters in fiscal year 1982, and it plans to continue procuring the helicopter through fiscal year 1994. A total of 863 Apache helicopters will be procured, including 603 on contract at the end of fiscal year 1988.

We identified potential reductions of $37.1 million in the Apache budget: $3.3 million for fiscal year 1987, $4.5 million for fiscal year 1988, and $29.3 million for fiscal year 1989.

Fiscal Year 1987 Budget

The Army's fiscal year 1987 budget includes $1,023.4 million to buy 101 Apache helicopters and $41.7 million for Apache modifications. We believe that the budget could be reduced by about $3.3 million:

- $1,038,000 from contracts awarded for less than the amount budgeted.
- $602,000 from budgets that exceed the Army's funding requirements, and
- $1,635,000 from budgeted amounts that the Apache office could not adequately support.

Our analysis showed that the fiscal year 1987 budgeted amounts for five cost elements exceed the contract amounts by about $1,038,000, and therefore the budget could be reduced by that amount. For example, the budgeted amount for one of the cost elements—$3.9 million for system program management—is $816,634 more than the contract amount of $3.1 million. Although Apache program office officials agreed that this and the other four contract amounts were less than budgeted for these cost elements, they did not believe the budget reductions should be made. They said that the extra funds could be used for other purposes, such as the OH-58D modification program.

We identified nine cost elements for which the budget exceeded the program office's established requirements by approximately $602,000. We believe that the budget could be reduced by this amount. Over two-thirds of this amount is for three budget lines—$179,394 for product support, $133,410 for peculiar ground support equipment, and $90,926 for avionics aircraft support equipment. Apache program office officials said that about one-half of the $602,000 was probably attributable to the rounding of budget estimates.

We identified $900,000 in the system program management budget line for fiscal year 1987 for which Apache program office officials were unable to identify a requirement. Additionally, $735,000 in two budget elements lacked adequate support: about $400,000 for peculiar ground support equipment, which we were unable to trace to supporting documents, and about $335,000 in the Target Acquisition Designation Sight Pilot Night Vision Sensor budget line, which was reserved for minor engineering change proposals (ECP). Program office officials could not support the need for the $1,635,000. Accordingly, we believe that the budget could be reduced by $1,635,000.

Fiscal Year 1988 Budget

The Army's fiscal year 1988 budget includes $834.8 million to buy 77 Apache helicopters and $44.0 million for Apache modifications. We believe that the budget could be reduced by $4.5 million: $1.7 million from contracts awarded for less than the budgeted amounts and

$2.8 million in funding that is not required for the originally budgeted purposes.

We found that the fiscal year 1988 budgeted amounts for eight cost elements exceed the contract amounts by about $1.7 million, and therefore the budget could be reduced by that amount. One item, avionics aircraft survivability equipment, accounts for the largest difference. Its budgeted amount of $13,600,000 exceeds the contract amount of $12,515,179 by approximately $1.1 million. Although Apache program office officials agreed that the budgeted amounts were overstated by $1.7 million and that these funds were not needed for the originally budgeted purposes, they did not agree that the budget should be reduced. They said that the funds were needed for other, unfunded Apache requirements. As an example, they said that the $1.1 million available from the aircraft survivability equipment budget could be used for an unfunded radar jammer retrofit program.

The Army's fiscal year 1988 budget includes $3.6 million to procure Hellfire missile launchers. However, according to Apache program office officials, only about $870,000 is required in fiscal year 1988—for engineering services but not for procurement of launchers. Procurement of launchers is not required in fiscal year 1988 because prior-year buys have resulted in an adequate supply. Therefore, we believe that the budget could be reduced by the remaining $2.7 million. Although program officials agreed that the $2.7 million was not required to procure launchers, they did not agree with the budget reduction. They said that they plan to reprogram these funds for engineering change proposals. We identified an additional $100,000 set aside as a reserve for peculiar ground support equipment, which a program office official told us is not required for this purpose. Therefore, we believe that the $100,000 could also be included in the reduction. A program office official said that these funds could be used to fund an ECP.

Fiscal Year 1989 Budget

For fiscal year 1989, the Army requested $809.1 million to buy 72 Apaches and another $17.3 million for system modifications. We believe that the overall budget request could be reduced by $29.3 million:

- $16.4 million from planned procurement of radar jammers that are not required.

- $1.9 million from avionics aircraft survivability equipment options for fiscal year 1989 requirements that will be exercised for less than the amount budgeted, and
- $11.0 million from modifications that will not be needed because of delays in awarding the Air-to-Air Stinger missile program contract.

The Army's fiscal year 1989 Apache budget request included $16.4 million for 72 radar jammers to enhance the aircrafts' survivability. Our review showed that the jammers are no longer needed because current supplies resulting from procurements in prior years are sufficient. Therefore, we believe that the budget could be reduced by $16.4 million. Apache program office officials agreed that this amount is no longer required for the originally budgeted purpose but did not agree that the Apache budget should be reduced. They said that about $534,000 is needed to partially fund an unbudgeted cost increase for an improved infrared heat suppression device and that the remaining funds would be used for fiscal year 1989 aircraft procurement.

The Army's fiscal year 1989 budget request for avionics aircraft survivability equipment includes $1.9 million more for radar warning receivers and chaff dispensers than the fiscal year 1989 options will require. Therefore, we believe that the budget could be reduced by this amount. Apache program office officials agreed that the request exceeds the option amount but said that these funds are needed to partially fund cost increases for an improved infrared heat suppression device.

In its fiscal year 1989 budget request, the Army has included $11.0 million for the Air-to-Air Stinger missile modification program; however, the modification contract has experienced some slippage. For example, there has been a 2-year slippage in contract award and production delivery with no corresponding revision in the initial procurement of prototype kits, scheduled for fiscal year 1989. Therefore, we believe that the budget request could be reduced by $11.0 million for this program to correspond more closely to the production equipment schedule. The Stinger Project Manager agreed that the Army has a very optimistic procurement package and that the award of the contract may not be possible during fiscal year 1989.

UH-60A Black Hawk

The UH-60A Black Hawk is a twin-engine, single-rotor, medium-lift helicopter with the normal capacity to carry 11 troops along with a crew of 3. The Black Hawk's primary mission is to transport troops and equipment. Additional functions are to provide aeromedical evacuation, troop

resupply, and command and control. The Black Hawk airframe is in its third multiyear contract covering fiscal years 1988 through 1991. At the end of fiscal year 1988, 927 Black Hawks will have been delivered. Black Hawk procurement is currently scheduled through fiscal year 1991. However, the 1988 update of the Army Aviation Modernization Plan has revised the Black Hawk procurement objective from 1,107 to 2,253 helicopters with production through fiscal year 2007.

We believe that the Black Hawk budget could be reduced by $12.2 million: $1.2 million for fiscal year 1988 and $11.0 million in fiscal year 1989.

Fiscal Year 1988 Budget

The Army's fiscal year 1988 budget includes $488.4 million to buy 72 Black Hawk helicopters. In our opinion, the fiscal year 1988 Black Hawk budget could be reduced by about $1.2 million—$380,000 for the airframe and $803,000 for the engine.

We believe that the airframe budget could be reduced by about $380,000 because the budget estimate of $248.56 million exceeds the contract amount of $248.18 million by approximately $380,000. Similarly, the budget of $68.34 million for engines is overstated by approximately $803,000 when compared to the contract amount of $67.54 million. The Black Hawk program office budgeted $68.3 million for 144 engines in fiscal year 1988. During budget submission and contract award, another 26 engines were added to the procurement. Even though the number of engines increased, the contract cost remained less than what was estimated in the budget, resulting in savings of $803,000.

Fiscal Year 1989 Budget

The Army requested $457.2 million to buy 72 Black Hawk helicopters in fiscal year 1989. We identified potential reductions of about $11.0 million: $10.7 million for the airframe and $260,000 for the engine.

The Army's airframe budget estimate of $266.5 million exceeds the January 1988 multiyear contract amount of $255.7 million by $10.7 million; therefore, it is overstated and could be reduced. In comparing budgeted to contract amounts, we included system and project management costs that were not readily identified as being directly attributable to airframe contract costs.

We also believe that the Army's budget request for engines is overstated by $260,000 because of lower contract costs. The Army budgeted

$49.32 million for 118 engines. However, the current multiyear contract, dated May 18, 1988, includes $49.06 million for the engines, a difference of $260,000. Program management officials agreed. Therefore, we believe that $260,000 is available for potential reduction.

CH-47D Chinook

CH-47 helicopters are used for the air transport of troops, weapons, ammunition, equipment, and other cargo as well as for aircraft recovery and medical evacuation. The CH-47D Chinook is the modernized version of the Army's twin-engine, tandem-rotor, medium-lift helicopter, which provides improved handling and increased performance over earlier CH-47 models. The modernized version provides substantial improvements in reliability, maintainability, survivability, and flight safety. Improvements in CH-47D performance result, in part, from the use of new turboshaft engines, an upgraded transmission, and new composite rotor blades. In addition, the CH-47D incorporates a new auxiliary power unit, a triple hook cargo system, and upgraded hydraulics, electrical systems, and flight controls.

As of May 31, 1988, 209 CH-47D helicopters had been modified and accepted by the Army. Fiscal year 1989 is the final year on the current 5-year multiyear contract. The Army plans to modernize an additional 144 aircraft in a follow-on multiyear contract, which will increase the total number of aircraft to 472 and use all remaining airframes.

We believe that the Army's procurement budget for the CH-47D could be reduced by about $4.2 million: $165,000 for fiscal year 1987, $285,000 for fiscal year 1988, and $3.7 million for fiscal year 1989.

Budgets for Fiscal Years 1987 and 1988

We believe that the Army's fiscal year 1987 budget of $251.0 million could be reduced by $165,000 because the auxiliary power unit contract costs are less than budgeted amounts. Likewise, we believe that the fiscal year 1988 budget of $226.9 million could be reduced by $285,000 because amounts budgeted for modifications exceed contract costs. In both instances, program officials said that funds available as a result of lower-than-budgeted contract amounts are needed for reprogramming to other line items that were underfunded.

Fiscal Year 1989 Budget

The Army has requested $256.3 million for fiscal year 1989 to modernize 48 CH-47D aircraft. We believe that this amount could be reduced by $3.7 million.

The technical publications budget for fiscal year 1989 includes $1.9 million for depot maintenance work requirement documents, which we believe will not be needed during the fiscal year. The Army rejected a contractor's proposal to provide the documents because the proposal was too detailed and would have resulted in excessive costs. The Army is reevaluating its depot requirements before requesting another proposal from the contractor. An Army program official responsible for procuring the technical publications said that, due to the delays experienced to date and the fact that for the last procurement the proposal took about 14 to 15 months to complete, it is unlikely that funds will be needed for the technical publications in fiscal year 1989. Therefore, it appears that the budget could be reduced by the $1.9 million requested for the publications. Other CH-47D program officials, who are not involved in the technical publications acquisition process, believe that the depot requirement will be revised, another proposal will be submitted, and the contract will be awarded in fiscal year 1989.

The Army's CH-47D avionics budget for fiscal year 1989 totaled $8.3 million. However, program management officials could document avionics requirements of only $6.5 million. Therefore, we believe that the budget could be reduced by $1.8 million. Program officials agreed that the budgeted amount was in error but stated that these funds could be used for other program requirements.

OH-58D Army Helicopter Improvement Program

The OH-58D is a modified version of the OH-58A observation helicopter. Aircraft modernization for this helicopter is accomplished under a budget line called the Army Helicopter Improvement Program (AHIP). The upgraded OH-58D provides the Army with improved nap-of-the-earth flight capability, target acquisition, and target designation under day and night and adverse weather conditions.

A salient feature of the OH-58D is the mast-mounted sight, which is a 25-inch sphere mounted above the main rotor that allows the helicopter to perform target acquisition and designation functions while remaining hidden from enemy view. In addition, infrared sensors in the sight allow the OH-58D to acquire targets at night and during limited visibility conditions. Other modifications to the OH-58A include a four-bladed main rotor, an updated control display system, and a significantly improved power and drive train system.

OH-58Ds will be used in the reconnaissance role to locate and maintain contact with the enemy, provide first-hand information and intelligence,

and support attack helicopter missions and direct artillery fire. The OH-58D will operate as a field artillery aerial observer and as an interim scout pending fielding of the Army's new light helicopter. In addition, the Army plans to arm 298 OH-58Ds with Hellfire and Stinger missiles, rockets, and 50-caliber machine guns to fulfill an armed reconnaissance role.

Production of OH-58Ds began in fiscal year 1984. In August 1986 the Army decided to terminate the program after fiscal year 1987, and in fiscal year 1988 the Army only requested funds to support fielding of the existing aircraft. However, the Congress authorized additional funding in fiscal year 1988 for continued OH-58D modifications. In fiscal year 1989, the Army requested funds for additional OH-58Ds in anticipation of reinstating OH-58D requirements as part of the fiscal year 1988 update of the Army Aviation Modernization Plan. As of May 31, 1988, 98 AHIP aircraft had been delivered to the Army, and aircraft modifications are now scheduled through fiscal year 1995.

Our analysis indicated that the Army's modifications budget for the OH-58D could be reduced by $25.4 million: $13.9 million for fiscal year 1988 and $11.5 million for fiscal year 1989.

Fiscal Year 1988 Budget

We believe that the Army's fiscal year 1988 budget of $160.1 million could be reduced by about $13.9 million: $12.3 million because of an overestimation of system program management costs and $1.6 million because of an overstatement of the engineering change order budget.

The AHIP project office budgeted $25.7 million for system program management in fiscal year 1988. Of that amount only $13.4 million can be supported as a valid system program management requirement by the AHIP program office. Therefore, the budget could be reduced by the resulting difference of $12.3 million. An AHIP official agreed with our assessment but believed that these funds are needed for the aircraft budget line.

The engineering change order fiscal year 1988 budget submission was $5.7 million. Approximately $4.1 million of that amount can be supported as a valid system program management requirement by the AHIP program office. As a result, we believe that the amount budgeted for engineering change orders in fiscal year 1988 is overstated by $1.6 million. An AHIP official agreed with our assessment but said that these

funds should not be considered for reduction because additional engineering change orders have recently surfaced for which these funds could be used.

Fiscal Year 1989 Budget

The Army requested $161.0 million for OH-58D modifications in fiscal year 1989. We believe that this amount could be reduced by $11.5 million.

The fiscal year 1989 budget contains approximately $11.5 million that may not be needed for system program management. The AHIP project office budgeted $25.0 million for system program management in fiscal year 1989. Of that amount approximately $13.5 million can be supported by the AHIP office as a system program management budget requirement. Therefore, the fiscal year 1989 budget could be reduced by the difference of $11.5 million. An AHIP official said that, while our assessment is correct, the funds are needed for the aircraft budget line.

Special Operations Aircraft

The Army currently plans to modify a total of 17 CH-47D Chinook helicopters to the MH-47E configuration and 23 UH-60A Black Hawk helicopters to the MH-60K configuration. In addition, the Army may increase the CH-47D procurement by an additional 34 aircraft. These Special Operations Aircraft (SOA) are to perform clandestine, deep penetration airlift missions in adverse weather with limited lighting and visibility during day or night conditions over all types of terrain in support of special operations forces. The Army considers currently configured aircraft to be lacking in their ability to perform special operations missions due to limited performance characteristics, vulnerability to various weapon systems, and limited self-deployability.

To satisfy current operational requirements, the Army established the SOA program to enhance the operational capability of existing aircraft. Among the more significant changes are (1) an integrated avionics system to improve communications and navigation capabilities, (2) improved aircraft survivability equipment, (3) increased armament to include upgraded suppressive weapons and air-to-air missiles, (4) the addition of external and internal fuel tanks along with air-to-air refueling, (5) engine upgrades, and (6) an upgraded transmission for the MH-60K.

The Army awarded contracts in December 1987 to Boeing Helicopter Company (for a prototype MH-47E) for $81.8 million and in January

1988 to Sikorsky Aircraft (for a prototype MH-60K) for $82.8 million. The first production MH-47E is scheduled for delivery in March 1991, and the first MH-60K is scheduled for delivery in June 1991.

We believe that the SOA budget could be reduced by $12.1 million: $4.6 million in fiscal year 1988 and $7.5 million in fiscal year 1989.

Fiscal Year 1988 Budget

The Army's fiscal year 1988 budget includes $54.9 million for MH-47E and MH-60K modifications. These funds are for, among other things, advanced procurement, installed equipment, and a simulator. The SOA fiscal year 1988 budget could be reduced by about $4.6 million because the procurement amount budgeted for the MH-47D simulator, which will be modified to an MH-47E configuration, is overstated. The Army acquired its most recent MH-47D simulator, along with modifications, in 1986 for $10.4 million, or about $4.6 million less than the $15 million that has been budgeted. Although SOA officials believe that their $15 million procurement estimate is valid, an Army contracting official responsible for the procurement said that the $10.4 million estimate is more realistic than the budgeted amount of $15 million. Therefore, we believe that the budget could be reduced by the difference of $4.6 million.

Fiscal Year 1989 Budget

The Army requested $139.0 million in fiscal year 1989 for modifying Chinook and Black Hawk helicopters for SOA missions. We believe that the fiscal year 1989 budget request for the MH-60K Black Hawk could be reduced by $7.5 million.

In its fiscal year 1989 budget request, the Army included $50.0 million for long-lead items and production set-up costs. In April 1988, subsequent to its submission of the fiscal year 1989 budget, the Army received a revised contractor estimate of $42.5 million. This $7.5 million budget reduction consists of $4.6 million for long-lead items and $2.9 million for production set-up for 11 MH-60K aircraft that are scheduled for a production start in fiscal year 1989. Program officials could not disagree that the data indicated the potential for reductions for fiscal year 1989 for long-lead items and production set-up but said that, based on prior experience with the contractor, they believed the revised estimate could increase.

Objective, Scope, and Methodology

The Senate Committee on Appropriations and Subcommittee on Defense of the House Committee on Appropriations requested us to review the justification for the Army's fiscal year 1989 budget request for procuring aircraft. Our objective was to assess the adequacy of the fiscal year 1989 budget justifications for selected programs and to determine whether the programs should be funded in the amounts requested. Since procurement funds remain available for obligation for 3 fiscal years, we also reviewed the budgets for fiscal years 1987 and 1988 for the selected programs to identify potential reductions. The aircraft systems reviewed were the AH-64A Apache, the UH-60A Black Hawk, the CH-47D Chinook, the OH-58D AHIP, and the MH-47E and the MH-60K Special Operations Aircraft modifications.

We conducted our review primarily at the Army's Aviation Systems Command, St. Louis, Missouri. This organization is responsible for developing Army aircraft budgets and implementing prior-year funding programs. In examining the execution of and justification for the aircraft procurement requests, we evaluated budget documents to determine the degree to which they were adequately supported by cost estimates, program requirements, and valid methodology. When Army officials disagreed with our observations on potential reductions and offered alternative uses for the funds, we did not validate their proposed alternative uses.

In addition, we assessed planned system improvements or modifications and the relationship of these changes to budget requests and budget execution. We examined program status documents, such as test results, program reviews, and other program documents. We interviewed Army officials responsible for the development, acquisition, and management of the systems we reviewed.

Our work was performed from January to July 1988 in accordance with generally accepted government auditing standards.

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